The Animal Health Safeguarding Review
Results and Recommendations

EXECUTIVE SUMMARY

October 2001

Animal Health Safeguarding Review

TABLE OF CONTENTS

The Review and the NASDA Research Foundation

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The NASDA Research Foundation

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Mission Statement:
Animal and Plant Health Inspection Service's Veterinary Services

Veterinary Services (VS) protects and improves the health, quality, and marketability of our nation's animals, animal products, and veterinary biologics by

- Preventing, controlling, and eliminating animal diseases; and
- Monitoring and promoting animal health and productivity.

The Animal Health Safeguarding Review

OVERVIEW

U.S. biosecurity is a national, military, and food security issue, and concern is rightly growing over the country's thin line of defense. At the core of concern is the fact that animal diseases affect commercial animals, pets and companion animals, and wild animal populations—some of these diseases can infect and kill humans.

Whether in large populations or small, high-value populations, animal disease outbreaks can cause significant and potentially devastating losses for producers; put considerable financial strain on response systems; and devastate regional and national economies. Therefore, the infrastructure of state, federal, and industrial animal health services must keep pace with the challenges of biosecurity.

Biosecurity itself is more than a buzzword; it is the vital work of strategy, efforts, and planning to protect human, animal, and environmental health against biological threats. The primary goal of biosecurity is to protect against the risk posed by disease and organisms; the primary tools of biosecurity are exclusion, eradication, and control, supported by expert system management, practical protocols, and the rapid and efficient securing and sharing of vital information. Biosecurity is therefore the sum of risk management practices in defense against biological threats.

The Animal and Plant Health Inspection Service's Veterinary Service (APHIS-VS) has so far been successful in carrying out its mission, but APHIS-VS could become the victim of its own success. With so much new trade and global economic interaction, so many effective new technologies helping to expand the industry and enhance eradication—and detection avoidance—with so many new opportunities overall for the industry and corollary operations, APHIS-VS is stretched thin. Resources are short; facilities are inadequate, understaffed, and overburdened; training is undervalued and under-required; surveillance techniques are failing to keep up with new and more subtle avoidance; communication is inadequate; and there is not enough employment of new technologies that could make APHIS-VS more efficient and effective.

The four committees whose work makes up this report find that four major needs must be met in order to address the rising and vital challenges of animal health issues in the U.S.:

1. Infrastructure inadequacies, especially in terms of staffing and facilities, are now so deep that the system cannot appropriately respond to a severe animal health crisis.

2. Improved communication—including establishment of the Emergency Operations Center—is vital for the acquisition and sharing of critical animal health information; and special attention must be focused on the use of advanced technologies.

3. America can no longer responsibly refrain from establishing a coordinated and vigorous National Surveillance System (NSS) and National Response Plan to monitor and respond to animal health issues.

4. The U.S. has a pressing and urgent need for improved and expanded applied research, and for diagnostic laboratories, both focused on animal health issues.

In addition, the four committees categorically assert that increased and complete funding is vital to meet the animal health challenge.

While the value of U.S. animal industries is high, the investment in protecting that industry is appallingly low. The livestock industry alone is worth about $100 billion, yet the entire Animal Health Monitoring and Surveillance (AHMS) budget for FY2001 was less than $70 million—our investment in protecting a critical range of industries is less than seven one-hundredths of one percent of only a single component. Both long- and short-term investment in state and federal animal health infrastructure is going down, while demand for services is going up. Simply put, resources do not meet the growing risk.

USDA must take the lead in developing a world-class system of exclusion, detection, surveillance, diagnosis, safeguarding, and response. Ironically, programmatic success in the 20th century has diminished both awareness of and support for the ongoing eradication efforts for many animal diseases. In particular, the U.S. now faces:

1. Declining awareness of need for adequate animal health safeguarding funds;
2. Growing need for redefinition of APHIS-VS mission and goals; and
3. Pressure to devise different systems for attaining the new goals.

USDA must build a system that both strengthens biosecurity and anticipates the new challenges such success will bring. This system should be grounded in core principles, and flexible enough to respond to changes in animal populations, commerce, and trade. APHIS will be the central component of this system, with support and assistance from both domestic and international partners. Moreover, greater coordination among agencies is vital. Complementary missions, tasks, responsibilities, resources and information should be exploited for maximum efficacy and efficiency.

This document is therefore a review of current and potential programs as the foundation for a system for safeguarding animal health in the U.S.

CAUSES AND EFFECTS OF ANIMAL HEALTH ISSUES: HIGHLIGHTS

- As mobility increases, animal and human health risk factors increase as well.
- Free trade increases pressure on detection practices, leading to oversimplification and lower efficacy.
- Increased agricultural trade increases exposure to diseases from foreign sources.
- As the average size of commercial livestock operations increases, more animals are at risk per outbreak.
- Exotics are more and more often found on modern hobby farms, hunting preserves, in aquaculture, and as pets, and the variety of backgrounds of these animals presents wide-ranging exposure to diseases for which immune systems are often unprepared, such as the recent bovine tuberculosis problems in Michigan and the increase in wildlife rabies throughout the U.S.

SUCCESS CREATES NEW PROBLEMS	
Successes have generated new problems and burdens for APHIS-VS, creating issues that are at once more insidious and more important than ever to be resolved.	
SUCCESS	**RELATED OBSTACLE**
As opportunities for exports grew, the livestock industry cooperated with APHIS-VS programs and recommendations in order to make their product more marketable overseas.	The healthy U.S. livestock population that resulted has encouraged more trade. Greater trade has led to lower trade restrictions, weaker border protections, and a more demanding requirement for cooperation from states and industry.
APHIS-VS and predecessor agencies have eradicated animal diseases such as foot-and-mouth disease, classical swine fever, vesicular exanthema, highly pathogenic avian influenza, and screwworm.	Healthier animal populations have led to larger and more diversified animal populations. This in turn creates the need for newer eradication and protection strategies to deal with these new environments.
Highly educated, well trained, and adequately staffed veterinary and technician corps direct effective eradication programs. These groups and individuals work closely with producers, whose cooperation is mission-critical.	Because of the successful eradication of endemic diseases, there has been a reduction in trained state and federal animal health personnel, who are no longer available for immediate duties. However, these individuals are also the ones to be called upon in a crisis, and now they are unavailable. In addition, retirement of staff and lack of ongoing professional training has diminished the knowledge base and networking of staff responsible for vital programs.

Primary Recommendation

Congress and the United States Department of Agriculture must provide funding and act to rebuild the state and national infrastructure for animal disease control, emergency disease preparedness, and response.

Foot-and-mouth disease warning sign, Exmoor UK 2001 *© Peter Dean*

MAJOR FINDINGS AND RECOMMENDATIONS: HIGHLIGHTS

The four committees focused on diverse aspects of animal health, but all arrived at similar views on the current state of disease control. They observed a dramatic national and international acceleration of trade in animals, and animal and plant products. Together with exponential increases in worldwide personal travel, mail parcels, and emerging animal diseases, these changes have converged to significantly raise the stakes for animal disease control.

This review finds performance adequate in handling most assigned roles, and even heroic in some historical efforts to eradicate diseases that have infected U.S. livestock—but resources are fast becoming overwhelmed.

This review calls for improvements in areas including, but not limited to, staffing, equipment, surveillance, detection, applied research, communications, and border security. It also calls for better interagency and interdepartmental cooperation, and the resources to facilitate it.

Many of the committees' recommendations will require increased federal funding. While the committees recognize the factors that can delay funding for these or any proposals, the members also note that many recommendations contained herein will cost little, and assert that rapid implementation of these proposals will immediately and significantly help bridge the widening gaps in the nation's animal disease detection and control capabilities.

P **The stakes are high.** Animals are moved farther and faster than ever before—and so, therefore, are animal diseases. Multibillion-dollar animal industries can be damaged and even destroyed in a matter of days by these diseases—and people who come in contact can quickly contract illnesses and even die. This potential for economic and biological damage means the U.S. must use the utmost care to prevent the spread of animal-borne disease.

P **The agency's performance has been strong, but escalating demand is overwhelming resources and facilities.** Staff is down six percent (FY97 to FY2000), while international animal product imports rose 44 percent and international travel arrivals increased 15 percent.

P **APHIS surveillance programs should be integrated into a National Surveillance System (NSS).** APHIS must be able to detect foreign animal and emerging diseases; monitor disease trends and threats in the U.S and other countries; detect risk, evaluate control programs; and provide adequate animal health information. The system should make better use of partnerships and technology.

P **APHIS and other agencies need significant recruiting efforts to assemble a deep and experienced personnel pool for crisis-level response to serious animal disease outbreaks.** Members should be drawn from the ranks of retired animal health professionals, technicians and other skilled volunteers from government and elsewhere.

P **APHIS should form a new, integrated Agricultural Inspection and Quarantine (AIQ) unit comprised of both animal and plant professionals.** This will require a mix of current Plant Protection and Quarantine (PPQ) personnel, veterinary medical officers (VMOs), animal health technicians (AHTs), and others to ensure competent coverage of all agricultural commodities. The process could begin with integration of PPQ and APHIS-VS staff at ports of entry.

P **APHIS should expand and improve its system of gathering international health information to support better dissemination of information in real-time and hard copy.** This should begin with assignment of communications staff to enhance worldwide monitoring of animal disease risks.

NATIONAL GOALS FOR ANIMAL DISEASE CONTROL

Partnerships and Leadership
State and federal government agencies must exhibit leadership and develop partnerships to contain animal diseases. This will require communication, coordination of activities, and strategy that includes industry, farmers and ranchers, academicians, and consumers.

Applied Research & Development
The United States Department of Agriculture (USDA), state agencies, and universities must rapidly allocate funding into applied research on animal disease detection, control, prevention and treatment, and emergency response systems. Congress should increase funding for this work and encourage collaboration on meeting APHIS' short- and long-term research needs. APHIS needs a process to develop, communicate, and meet its applied research needs.

Infrastructure
Virtually all APHIS-VS components need increased funding to improve human resources, laboratories, and technological capabilities. Staff is now overwhelmed by the volume of work, and is inadequate to handle emergencies. An improved state infrastructure is especially needed, as are state-federal partnerships at the local level, where programs are actually carried out. In addition, the National Veterinary Services Laboratories (NVSL) and Centers for Veterinary Biologics (CVB) at Ames, Iowa, must be modernized according to the APHIS-ARS (Agricultural Research Service) Master Plan for Facility Consolidation and Modernization and Plum Island, New York, must be renovated according to its Modernization Plan[1].

Organizational Structure
APHIS needs improved organization and delegation of authority. Field offices need more autonomy. PPQ and APHIS-VS staff at ports of entry should be reorganized into an integrated unit. Regulatory authorities need clarification and reinforcement.

Communication & Education
People, goods, and livestock can easily move between countries. International travel is inexpensive and easy. Unfortunately, this ease of situation contributes to the easy movement of animal disease and individuals between nations and environments. Information on risks should be shared as broadly as possible to avoid outbreaks of disease.

Coordinated Information
Inspection operations should be linked by a shared database and communications network.


Plum Island, New York

BIOTERRORISM

Information gathered after the break-up of the Soviet Union on biological warfare capabilities and evidence of biological warfare programs in Cuba, India, and Iraq, provide sobering insights into the nature of sophisticated biological weapon programs. Many agents with potential bioterrorist use are zoonotic pathogens familiar to veterinary professionals. In addition, it is also apparent that agriculture is a target of biological weapons programs. Yet a recent Rand Commission report indicates "the potential for terrorists to disrupt economies and societies by introducing pathogens into the food chain and livestock is only now being taken seriously by government agencies."

Bioterrorism is easy to execute, and poses little risk to the perpetrator. Many agents are readily obtainable in countries where foreign animal diseases (FADs) are endemic, and can be easily introduced to sites of livestock production. The pasture, range, and feedlot management of many livestock animals place animals along public roads and highways, allowing easy exposure. The recent epidemic in the United Kingdom (UK) demonstrates in stark terms that there are secondary economic, social, and political impacts that accompany the tragic primary impacts of animal and human sickness and deaths. As the UK experienced with other animal health issues, it could take decades to recover from such damage. In addition, domestic livestock are not the only animal populations potentially endangered by agroterrorism. Introduction of FAD agents into wildlife, zoos, and wild animal parks could have profound effects on potential viability of those animal populations; of particular concern are endangered species.

The committees are mindful of these threats and the lessons they impart. Taken with the new focus on the terror threat in the aftermath of the events of September 11, 2001, the committees stress that the potential for bioterrorism underlines the importance of the recommendations and principles of this report.

SUMMARY: A national strategy, melding the nation's federal, state, and local resources, would be capable of responding to any type of animal health emergency, including foreign animal diseases and bioterrorism. Agents that could be used in a subversive manner to disrupt animal agriculture are not new to veterinarians. However, the need to enhance and maintain a state-of-the-art national surveillance system has never been more critical.

Foot-and-mouth disease pyre, Devon UK 2001 *© Peter Dean*

COMMITTEE SUMMARIES

Domestic Detection & Surveillance

Exclusion

International Information

Response

DOMESTIC DETECTION AND SURVEILLANCE COMMITTEE

Summary

The committee observed significant strengths in the disease control successes of existing APHIS-VS surveillance programs. However, the current strategy focuses on detection of a limited number of diseases in specific species, and does not have the flexibility to effectively detect and respond to new and emerging diseases or changes that will affect U.S. animal health. In addition, the programs suffer from the lack of a single coordinating process for surveillance programs. This deficiency harms U.S. competitiveness, as well as the ability to detect animal diseases of significance to public health. Therefore, the committee recommends the creation of a vigorous National Surveillance System (NSS). *(See NSS diagram, Appendix III)*

Summarized Principles and Recommendations

PRINCIPLE 1a

A comprehensive, coordinated, integrated surveillance system is the foundation for animal health, public health, food safety, and environmental health.

Recommendations

1 Create a national surveillance director leadership position with responsibility for the NSS.

2 Utilize a Surveillance Steering Committee to provide guidance, priorities, feedback, and evaluation to the NSS.

3 Encourage use of technological advancements to meet evolving NSS needs.

4 Develop ongoing quality assurance and continuous improvement plan for evaluation of the effectiveness of the NSS.

5 Secure the appropriate authority for access to sampling and information needed to implement the NSS.

6 Communicate surveillance findings to stakeholders and determine if surveillance meets stakeholder needs.

PRINCIPLE 1b

The NSS must ensure early detection and response to emerging diseases, foreign animal diseases, and endemic diseases.

Recommendations

7 Ensure the design of the NSS provides early detection of emerging diseases to allow for an appropriate and timely response.

8 Ensure that the design of the NSS incorporates foreign animal disease surveillance needs.

9 Ensure the design of the NSS incorporates endemic disease surveillance needs.

PRINCIPLE 1c

The NSS must meet international surveillance requirements.

Recommendations

10 Expand participation in international animal health discussions and activities.

11 Exchange ideas and personnel with other countries in surveillance methodology.

PRINCIPLE 1d

NSS cannot be implemented by APHIS-VS alone. Partnerships with states, animal industries, veterinary practitioners, universities, Office International des Epizooties (OIE) reference centers, and diagnostic laboratories are essential.

Recommendations

12 Ensure the design and implementation of the NSS includes state governments, universities, and commercial diagnostic

laboratories. Explore implementation of a national laboratory system utilizing a regional laboratory network similar to the Centers for Disease Control and Prevention model. Create opportunities for innovative approaches for surveillance with surveillance partners and allied industries.

13 Seek opportunities to utilize resources of other federal agencies to enhance the NSS.

14 Create partners and advocates for the NSS by developing an understanding of its value with participants, users, and beneficiaries.

PRINCIPLE 1e

Surveillance is critical to the mission of APHIS-VS. It is the foundation for APHIS-VS activities including domestic disease control and eradication programs, emergency preparedness and response, and trade.

Recommendations

15 Create a common vision and sense of urgency for surveillance within APHIS-VS personnel.

PRINCIPLE 1f

APHIS-VS has the responsibility to provide leadership for areas of surveillance of national interest.

Recommendations

16 Provide a framework for the NSS including standardization, identification, information management (data capture, description and analysis, interpretation, and dissemination and feedback), and technical resources.

PRINCIPLE 1g

The NSS requires world-class national diagnostic laboratories.

Recommendations

17 Define the role of the NVSL as the reference laboratory in support of the NSS.

18 Upgrade the capabilities of the National Veterinary Services Laboratories and the Center for Veterinary Biologics for their critical role in the surveillance system.

PRINCIPLE 1h

The NSS requires world-class epidemiological expertise.

Recommendations

19 Expand the role of the Centers for Epidemiology and Animal Health (CEAH) as the epidemiologic reference center in the NSS.

20 Improve the coordination of the CEAH, animal health programs, and area, regional, and state epidemiological resources in support of the NSS.

PRINCIPLE 1i

Applied research is essential to the development and maintenance of the NSS.

Recommendations

21 Meet applied research and development needs for the scientifically based NSS.

EXCLUSION COMMITTEE

Summary

After reviewing all facets of current efforts to prevent the incursion of foreign animal diseases into the U.S., the committee found the need for new and revised regimes, procedures, and support. The committee's recommendations cover the continuum of exclusion activities, from the gathering of international animal health information and trade negotiations; through the promulgation of import regulations, review of import requests, and the physical inspection activities at ports of entry; to domestic surveillance, and monitoring systems.

Summarized Principles and Recommendations

PRINCIPLE 2a

In order to achieve effective exclusion, the U.S. must adopt a unified approach that balances plant and animal issues, and restores coherence to the fractured system now in place.

Recommendations

22 Form a new, integrated Agricultural Inspection and Quarantine (AIQ) unit of both animal and plant professionals.

23 Establish a permanent Quality Assurance (QA) unit with the expertise to validate the outcomes of inspection and interdiction efforts; and provide leadership in continuous quality improvement.

24 Whenever possible, co-locate AIQ port offices with all other federal inspection services (e.g., U.S. Customs, and the Immigration and Naturalization Service).

25 Raise the priority of postal inspection to the same level as that of passenger baggage, cargo, and animal quarantine.

26 Fully fund and support the APHIS Smuggling Interdiction and Trade Compliance (SITC) unit.

27 Include area veterinarians in charge (AVICs) and state veterinarians in exclusion activities conducted at the state level.

PRINCIPLE 2b

In order to prevent the incursion of foreign animal diseases into the U.S., the trade environment for animals and animal products must include a flexible, fast-responding, integrated effort with the participation of federal and state agencies, and industry.

Recommendations

28 Animal Health Program headquarters should
- — make more frequent staff visits to the field; or
- — relocate staff closer to front line operations (preferably to the state level; secondarily, to regional offices).

29 Establish routine dissemination to both managers and field staff in all programs of information on international animal health status, import permits, and port activities.

30 Form a new Animal Health Information Coordination and Analysis (AHICA) unit.

31 Drastically expand USDA information on international animal health status to include sources such as the Internet, scientific publications, market reports, and federal agencies such as the National Security Administration, the Foreign Agricultural Service (FAS), and the U.S. State Department.

32 Establish e-mail discussion lists to help unify operational procedures at ports for AIQ.

33 Provide technical support 24 hours a day, 7 days a week for animals and animal products, so that all port arrival times are covered.

34 Promote cooperation between USDA and the Customs Service to revise the passenger and international mail declaration form to more effectively identify the need for in-depth inspections of arrivals.

35 Provide input into the development of the Customs Service's new Automated Commercial Environment (ACE) to ensure it provides the level of information necessary to facilitate exclusion activities.

36 Make the Treasury Enforcement Communications System (TECS) accessible and subject to mandatory update; its usage to identify high-risk targets should be required of USDA personnel at all ports.

37 Direct Centers for Veterinary Biologics (CVB) to provide improved and expedited responses to port authorities, brokers, and similarly situated parties.

42 Ensure that private contractors engaged in off-loading animals or cleaning and disinfecting conveyances at ports employ biosecurity practices at least equal to those of APHIS-VS.

PRINCIPLE 2c

APHIS exclusion efforts must encourage and reward innovation; and must be decentralized so that every level has appropriate authority and responsibility for its work.

Recommendations

38 Airport Procedures:

— Model procedures after those in use at the international passenger arrival checkpoint at the Los Angeles International Airport (LAX).[2] Highlights include expanded inspection authority and the use of amnesty bins and signage in multiple languages that list penalties for violation.

— Employ advanced x-ray equipment and/or canine teams along baggage conveyor belts, and employ teams of two or more inspectors to expand, speed up and improve baggage scanning.

39 Increase canine inspection teams at passenger baggage, cargo, and mail inspection facilities so that teams are available for arrivals occurring at any time.

40 Mount a public information campaign on penalties for illegal importation, and methods of inspection.

41 Employ the management practices of the Newburgh, New York, AIQ facility for all animal facilities.

43 Ensure that birds, animals, and animal products that do not fully meet the import requirements for entry into the U.S. are refused entry.

44 Establish a formal connection between APHIS-VS and International Services (IS) to ensure that countries have the necessary information to meet U.S. import policies.

45 Empower port directors to resolve individual problems with imports.

46 Ensure that APHIS-VS veterinary medical officers (VMOs) at animal and bird import quarantine facilities have appropriate clinical training and skills. Minimize use of private veterinarians within quarantine facilities, and ensure strict enforcement of biosecurity measures when the employment of such individuals occurs.

47 Expand risk assessment to be a standard part of all exclusion operations.

48 Increase assistance in disease diagnostics, monitoring, surveillance, and control/eradication programs to foreign countries with animal disease problems that threaten the U.S.

49 Incorporate the tracking and inspection of cruise ships, private boats, and aircraft arriving from foreign countries into the work functions of APHIS, in coordination with other federal inspection services.

50 Enforce the assessment of civil penalties provided by law for passengers, cargo, and mail.

51 Revise and improve biosecurity procedures for other than slaughter livestock at land border crossings. Permit release of live animals, regardless of species, only after inspection by a VMO.

52 Direct APHIS-VS to pursue an equivalency agreement with Canada so that cattle import conveyances are inspected and sealed at the point of origin, and not unloaded at the U.S. border. Continue pursuit of a North American biosecurity plan in partnership with Canada and Mexico; this in order to ensure the equivalency of exclusion efforts in all three countries.

53 Establish an objective, risk-based process to periodically review and update the list of import-limiting animal diseases.

54 Incorporate a requirement for periodic review, audit enforcement, and updating into compliance agreements for the regulation of international garbage.

55 Develop and maintain a standard manual for mail inspection that includes pictures of prohibited products.

56 Provide foreign language interpretation assistance for inspectors at all port facilities.

57 Complete preparation of the Animal Products Manual (APM) in electronic format.

PRINCIPLE 2d

In order to be an effective deterrent to the incursion of foreign animal diseases, APHIS must hold appropriate authority and conduct enforcement activities.

Recommendations

58 Encourage across-the-board USDA support for passage of the new Animal Health Protection Act, which should include strengthened civil penalties for illegally importing animals, animal products, or veterinary biologics; and the granting of subpoena and seizure power equal to existing authority for plants and plant products to all new port structures for animals and animal products.

59 Swiftly review and update the Swine Health Protection Act, drawing input from all stakeholders.

60 Extend USDA authority to inspect private boats and aircraft arriving from foreign countries.

61 Support inclusion of CVB in future legislative authority, such as that of the Drug Export Reform Enhancement Act (DEREA), to address risks posed to U.S. livestock through export-only production of vaccines.

62 Support greater authority for CVB for testing of illegally imported biologics.

63 Secure improved, electronic, foolproof permitting for approvals of imported biologic agents and vaccines.

64 Provide resources to permit CVB to secure state-of-the-art technologies for timely response to animal health surveillance and enforcement activities.

PRINCIPLE 2e

Staffing levels, qualifications, training, and assignment must be based on validated pathway risk analyses, and must provide for periodic monitoring and revision of those risk analyses.

Recommendations

65 Direct APHIS to

— Immediately assess staffing needs; this in order to address significant losses in senior personnel, and the expected loss of more;

— Review and adjust compensation disparities, grade levels, and career pathway opportunities;

— Establish partnerships with state officials, academics, and industry representatives in order to augment and complement its own staffing resources; and

— Provide more staffing for the Center for Veterinary Biologics-Inspection and Compliance (CVB-IC), the Center for Veterinary Biologics-Licensing & Policy Development (CVB-LPD), and the Center for Veterinary Biologics-Laboratory (CVB-L), all of which are currently understaffed for their mandate.

66 Direct AIQ to

— Develop for and deliver to its staff regular continuing education programs on animal diseases and animal product issues; and

— Arrange for its port directors and quarantine facility directors to meet annually to discuss mutual problems, recommend changes in procedures and policies, and harmonize operations.

67 Ensure that international mail facilities are staffed whenever parcels are being processed.

68 Enhance Foreign Animal Disease Diagnostic Laboratory (FADDL) training programs, including continuing education and accreditation, to adequately protect animal health.

69 Direct APHIS to revise and implement a private veterinarian accreditation program with sufficient funding to be free of user's fees, and to establish foreign animal disease (FAD) continuing education as a requirement of the program.

PRINCIPLE 2f

A combination of user's fees and line item appropriations must be established to adequately fund all exclusion activities and their attendant support functions.

Recommendations

70 Direct APHIS to seek the additional funding needed to support the increases in staff, staff training, salary adjustments, support infrastructure and facilities to adequately execute its mission. *(See also Exclusion Committee Summary, Principle 2e.)*

71 Seek additional funding to ensure that the new quarantine facilities fully meet standards for biosecurity, and will have the operational capacity needed for the foreseeable future.

72 Increase contingency funding for APHIS so it can better deal with emergencies.

73 Seek funding to address the diagnostic and applied research needs for FADD activities, including the establishment and maintenance of Biosafety Level (BSL) 3-AG and BSL 4 laboratory facilities.

74 Direct funding towards establishing the expertise and physical capabilities at state diagnostic laboratories to perform diagnostic testing for FAD in the event of a confirmed outbreak.

75 Maintain USDA-APHIS-VS's National Center for Import and Export (NCIE), APHIS-VS, and CVB jurisdiction over permits for importation and movement of zoonotic pathogens and all biologics that may be produced in any animal tissues or fluids.

PRINCIPLE 2g

APHIS can and should increase effectiveness of staffing by using better information systems and inspection equipment; new technologies must be accompanied by re-engineered workflow processes.

Recommendations

76 Direct APHIS-VS to establish an Office of Animal Health Information Coordination and Analysis to coordinate information acquisition, analysis, and flow within APHIS-VS.

77 Direct APHIS to support the use of new technologies.

ACE. Provide input to the development of the Customs Service Automated Commercial Environment (ACE).

TECS. Direct APHIS personnel to take full advantage of the Treasury Enforcement Communication System (TECS) to identify and track repeat violators of import restrictions.

WADS. Revise the Work Accomplishment Data System (WADS) to incorporate risk assessment and to more accurately reflect workloads.

AMS. Make mandatory the use of the Automated Manifest System (AMS) for importers.

Web-based technologies. Encourage APHIS to continue development of web-based interface solutions as a

primary portal for communication with and information transfer to clients.

Electronics. Apply search engine or intelligent agent technology to the review of electronic manifests.

78 Augment the information currently collected on products seized in international mail facilities with additional information on

— consignor,

— consignee,

— country of origin, and

— specific type of product confiscated.

79 Upgrade x-ray equipment to the most advanced technology available.

80 Encourage APHIS to continue to pursue integration of its port information systems with Customs Service systems; this to eliminate the need to re-enter data from one system to the other.

81 Disseminate import permit information from the National Center for Import and Export automatically and electronically throughout APHIS, and to AVICs and state veterinarians.

82 Make software compatibility with state and industry stakeholder systems required criteria for acquisition of software or application development.

83 Upon availability, incorporate the national animal identification system into all developed and revised information systems.

INTERNATIONAL INFORMATION COMMITTEE

Summary

The committee finds that a national response effort is needed to better gather, report, analyze, and disseminate international information on animal health issues. This will bring about more efficient and coordinated responses to animal diseases and health emergencies, which will in turn help to minimize negative health issue impact on animals, producers, consumers, the environment, and national and state economies.

Summarized Principles and Recommendations

PRINCIPLE 3a

Internal and external communications are mission critical.

Recommendations

84 Commit resources to upgrade communication abilities within APHIS-VS and USDA to better connect USDA and related agencies; and to better monitor animal health issues among various agencies.

85 Improve APHIS-VS ability to communicate animal health issues information to its personnel, interested state animal health agencies, and vital partners.

86 Enhance and upgrade electronic monitoring of Internet communications, including enhanced security; capacity to tap into more foreign and domestic communication services; and the ability to route animal health queries to National Surveillance System (NSS). The Centers for Epidemiology and Animal Health (CEAH) should coordinate activity.

87 Secure APHIS-VS authority to administer information support for International Services (IS). Strengthen the APHIS-VS role in the Office International des Epizooties (OIE), especially as it encounters pressure to compromise over trade issues.

88 Direct APHIS-VS to develop and disseminate an annual report describing international surveillance activities.

PRINCIPLE 3b

International animal health information (IAHI) gathering must be excellent.

Recommendations

89 Direct APHIS-VS to enhance international information gathering in cooperation with IS, Plant Protection and Quarantine (PPQ), Foreign Agricultural Service (FAS), and other USDA agencies.

90 Establish a centralized group, preferably within APHIS-VS and with CEAH as an integral component, to receive, verify, process, and distribute all IAHI material.

91 Secure

— specific animal health training for all IS, FAS, and PPQ employees;

— pre-assignment briefings on international animal health;

— training for U.S. Customs agents; and

— sufficient funding for additional veterinary field service officers, including those working in customs.

92 Initiate active participation in the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES), and other available electronic systems with an IAHI component.

93 Direct APHIS-VS to enlist support for information gathering from the Department of Defense, National Security Agency, U.S. Customs, and U.S. Fish and Wildlife Service, private industry, the veterinary community, international trading partners, and other USDA agencies.

PRINCIPLE 3c

Diagnostic facilities and staffing must be excellent.

Recommendations

94 Promote implementation and full funding for the APHIS-ARS Master Plan for Facility Consolidation and Modernization on an accelerated timeframe of three to four years, and for the Modernization Plan for the laboratories at Plum Island.

95 Ensure that critical agencies, personnel, and programs for the U.S diagnostic and applied research infrastructure are superlative, and that this diagnostic and applied research excellence is a critical agency priority for USDA.

PRINCIPLE 3d

Internal agency structures and systems must deliver high quality IAHI.

Recommendations

96 Establish a single, functional APHIS-VS unit to lead, coordinate, and shape IAHI collection, access, and delivery.

97 Promote a clear organizational mandate within USDA to administer, access, capture, verify, and communicate international information to all levels of USDA, as well as to all state departments of agriculture including all state veterinarians' offices.

PRINCIPLE 3e

As U.S. animal health is a key component of IAHI, the nation needs a sound system of domestic animal health reporting.

Recommendations

98 Direct USDA to clearly define the National Animal Health Reporting System (NAHRS) as a cooperative, not voluntary, program for all industries and states that request USDA certification of animal products for export.

99 Direct USDA to immediately implement an annual publication summarizing progress in animal disease control and eradication programs for each major livestock commodity species and to distribute such a document to all IS, PPQ, FSIS, FAS, and U.S. Trade Representative and U.S. State Department personnel that interact with representatives of foreign governments; to USDA employees; and to each member of the U.S. Congress.

100 Develop and implement a safeguarding information program that involves all appropriate individuals and agencies in the information chain.

101 Strengthen the federal system of accreditation for veterinarians with more stringent qualifications, including a requirement for (funded) continuing education in foreign animal disease, and reporting and use of international animal health information. *(See also Response Summary, Principle 4j, and Exclusion Summary, Recommendation 69.)*

PRINCIPLE 3f

Ports of entry need expanded detection and information gathering.

Recommendations

102 Replace manual reviews of manifests with the automated cargo targeting system being developed by APHIS (see also Exclusion Committee Summary, Recommendation 82); and immediately implement software screening of complex customs entry data to assign scrutiny of highest risk entries.

103 Move to collect all international information in a consolidated system with appropriate analysis for risk.

104 Devise improved port procedures to gather international information, including the use of nondestructive technologies, additional personnel, and canines. *(See also Exclusion Summary, Recommendations 2a and 2b.)*

RESPONSE COMMITTEE

Summary

The committee finds that current programs must better meet the changing needs of the animal industry to face the threats of possible foreign animal diseases, bioterrioism, emerging diseases, food safety issues, zoonotic diseases, wildlife diseases, and the directive to complete regulatory eradication programs. The committee has outlined a dynamic national plan for APHIS-VS, state departments of agriculture, veterinary medicine, veterinary practitioners, and animal industries to work together to provide an efficient, coordinated response to animal diseases and health emergencies, while minimizing the impact to animals, producers, consumers, the environment, and national, state, and local economies.

Summarized Principles and Recommendations

PRINCIPLE 4a

Any national response system must be a coordinated, cooperative effort of federal and state regulatory agencies, animal industries, and related groups.

Recommendations

105 Continue cooperative efforts of APHIS, other federal agencies, and states with animal industries to complete disease eradication programs in a timely manner; develop new disease eradication programs; and, when needed, to respond to emerging diseases.

106 Lead the development of cooperative efforts among federal and state agencies, animal industry and veterinary medicine, and others to develop, implement, and enhance on-farm animal health quality assurance programs to develop best management practices, to prevent disease, and to provide surveillance and educational programs for the U.S. animal industry.

PRINCIPLE 4b

A dynamic response plan is necessary to control domestic and foreign animal diseases and issues. It should include

— enhanced training and education;

— mobilization of adequate supplies, resources, and trained personnel;

— clarification of roles and responsibilities; and

— coordination of the myriad response providers.

Recommendations

107 Reformat the current disease-specific Emergency Response Guidelines into a single-volume manual similar to the Australian Plan.[3]

108 Expand APHIS-VS ability to trace and control potentially infected animals or contaminated animal products through cooperative agreements with state animal health agencies.

109 Include strategies to better understand and adhere to legal and regulatory requirements while also advancing the mission of public health; this in order not only to do the best job possible, but also to minimize the potential for legal challenges to response activities.

110 Implement a process to annually review and refine the National Response Plan.

111 Assess the Regional Emergency Animal Disease Eradication Organization (READEO) system and take steps to ensure that it is prepared, staffed and funded to fulfill its mission.

112 Develop a vaccination strategy for FADs, and provide personnel and supplies to implement the strategy.

113 Extend FADD training opportunities to state, university, industry, and private practitioners. Assure that the training requirement is enforced.

114 Create national personnel pools of emergency responders from the ranks of retired state and federal animal health officials, other government agencies, skilled private practitioners, non-veterinarians with specific skills (slaughterhouse personnel, wardens, wildlife services staff), and appraisers. Re-assess the use of military and reserve veterinarians and support staff as key participants early on in a national emergency response. Utilize veterinarians that work with specific species to teach others the FADs of that species at national, regional, and local meetings.

115 Continue working aggressively to integrate the United States Emergency Response Plan System (USERPS) into the Federal Emergency Management Agency (FEMA) Federal Response Plan as quickly as possible. Inclusion could be as either an annex or through development of a new emergency support function.

116 Develop a logistical support plan (similar to the Human Health Services' National Pharmaceutical Stockpile[4]) that assures adequate emergency supplies are rapidly available to the field.

Foot-and-mouth disease sign, Broadwoodkelly, Devon UK 2001 © Peter Dean

117 Fund and support the development of cooperative agreements with individual states for specific response plans and state personnel.

PRINCIPLE 4c

A state of the art infrastructure for a federal/state diagnostic laboratory system is crucial to support response actions for all animal health events, from routine surveillance monitoring to large-scale outbreaks.

Recommendations

118 Define roles and responsibilities of federal and state laboratories in the national laboratory infrastructure, including roles in FAD testing.

119 Develop and implement a quality assurance and control system for both federal and state laboratories that meets or exceeds international standards. Maintain and disseminate an active database of laboratories meeting these standards.

120 Rectify Foreign Animal Disease Diagnostic Laboratory (FADDL) staffing and salary shortfalls.

121 Utilize previous National Veterinary Services Laboratories (NVSL) reviews in conducting a needs assessment regarding emergency diagnosis and applied research. Implement a plan that supports the immediate and long-term needs of a federal/state diagnostic laboratory system.

122 Improve customer service in NVSL laboratories.

PRINCIPLE 4d

Clear lines of authority and clear rules for compensation will assure smooth operations of emergency responses.

Recommendations

123 Define specific state and federal legal authorities for emergency actions, and lines of authority from the Secretary of Agriculture to the READEO directors.

124 Ensure adequate and immediate funding for response activities, including product and animal destruction.

125 Define specific responsibilities for CEAH and APHIS staff; field and operations support; wildlife and APHIS-VS-Emergency Programs, and READEO staff.

126 Communicate all highlighted issues, principles, and authorities to all state animal health authorities and livestock industry groups.

PRINCIPLE 4e

Modern effective emergency response depends upon a world-class, integrated, and comprehensive identification and data communication management system that includes both animal and premises identification, and both international and domestic animal disease information.

Recommendations

127 Expand and maintain adequate information technology (IT) infrastructure and support staff.

128 Develop and maintain a comprehensive animal identification system that takes into consideration state and regional animal production methods.

129 Expand the web-enabled national animal database supported in each state with on-going Geographic Information System (GIS) maintenance by state and federal staff. The system should utilize other sources of GIS, and should be augmented by an early response team of APHIS geographers who can mobilize at the onset of an outbreak. The director of APHIS-VS should implement GIS expertise at the APHIS Area Office.

130 Incorporate the analysis of epidemiologic information and resource management. Make appropriate training available to state and federal animal health officials for the purpose of animal health emergency response. Ensure that software and hardware resources meet program needs, and are compatible with those used by the states. Maintain confidentiality of sensitive information.

PRINCIPLE 4f

Wildlife and exotic species management is a critical component of thorough animal disease response plans.

Recommendations

131 Determine and respond to the risk that wildlife presents in an animal health emergency. Direct appropriate agencies to eliminate or reduce wildlife-associated risks.

132 Cooperate with, expand the involvement of, and provide training to wildlife management agencies in animal health emergency planning and response. Develop a joint state-federal training program.

133 Clarify the role of APHIS Wildlife Services in response to an animal health emergency.

134 Clarify authority regarding wildlife-related aspects of animal disease control and health emergency response.

135 Consolidate data on wildlife demographics and diseases.

136 Define and prioritize applied research needs to address wildlife and exotic species issues in animal health emergencies.

PRINCIPLE 4g

The best response programs are supported by relevant applied research.

Recommendations

137 Direct APHIS-VS and ARS to prioritize and develop plans for completion of needed applied research.

138 Continue a system to arbitrate disagreements and limitations between APHIS-VS and ARS.

139 Reverse the serious erosion of animal health applied research funding that has occurred in past years.

PRINCIPLE 4h

Effective communication is a high priority at all levels of response and should be supported with adequate funding and staff.

Recommendations

140 Improve internal communications within APHIS, and encourage routine communication between CEAH, Animal Health Program headquarters, and the Secretary of Agriculture's office.

141 Establish orientation and mentoring programs for new APHIS employees to enhance awareness of other ongoing APHIS programs and the history of the agency and its programs.

142 Strengthen communication and enhance working relationships between AVICs and state veterinarians.

143 Strengthen communication on occurrences of emergency animal disease or condition.

PRINCIPLE 4i

Visionary and sustained leadership should be fostered to encourage new initiatives. These initiatives should expand the APHIS role in activities such as food safety, bioterrorism prevention, and regulatory and emergency response.

Recommendations

144 Encourage routine visits to the field in order to observe needs and opportunities for program enhancement. Relocate key positions traditionally maintained at national headquarters to be closer to field operations; this to improve response efforts and attract talented individuals who may not wish to relocate to Washington, D.C. Actively work with partners to clarify and solidify working relationships. Identify new areas of cooperation, defining roles within them.

PRINCIPLE 4j

A national veterinary accreditation program is needed to bolster emergency response systems and to improve preparations.

Recommendations

145 Redesign and upgrade the national veterinary accreditation program to include

— standardized national training and reinstatement of the examination;

— periodic revision of the accreditation manual;

— periodic communication with all accredited veterinarians to emphasize their important role in certification of animal movement, reporting, and response to unusual animal diseases or conditions; and

— mandatory training to maintain accreditation.

146 Continue development of two levels of accreditation: Large Animal (Category 1) & Non-large Animal (Category 2). Make paramount the emphasis on FAD diagnosis, containment, reporting, and response with state and federal agencies, along with continuing education for the Large Animal classification. Allow Category 2 veterinarians to issue only small animal health certificates.

147 Expand the accreditation program to be the core for emergency preparedness and the response plan.

PRINCIPLE 4k

A comprehensive indemnity plan and a clear-cut condemnation process are vital to the success of and industry support for any response plan.

Recommendations

148 Clearly define, establish, and communicate a comprehensive indemnity plan.

149 Clearly define and establish a seizure process.

150 Ensure adequate funding for both of the above, and define funding responsibility so that it is a part of the response plan and not a decision to be made during a crisis.

151 Provide a process for industry input and attendant guidelines for FAD outbreak response.

152 Continue to develop guidelines and cultivate legal authority for humane euthanasia and carcass disposal in order to maintain biosecurity, and to prevent spread of infectious agents.

Notes

1. APHIS-ARS Master Plan for Facility Consolidation and Modernization, Modernization Plan for National Veterinary Services Laboratories—A USDA proposal to build a new facility in Ames, Iowa, to meet national needs for animal health research, diagnosis and product evaluation, and to replace existing facilities that are antiquated and inefficient. The proposed facility would modernize and update USDA facilities in Ames, Iowa, for the ARS National Animal Disease Center (NADC), APHIS National Veterinary Services Laboratories (NVSL) and the APHIS Center for Veterinary Biologics. Additional information is available on the Internet at http://www.nadc.ars.usda.gov/MasterPlanInfo/index.asp. The Modernization Plan for Plum Island, New York, provides for continued maintenance and upgrading of this facility.

2. Los Angeles Airport (LAX) checkpoint procedures—A series of procedures for international passengers disembarking from flights to voluntarily abide by USDA-APHIS regulations on the importation of fruits, vegetables, and animal products–followed by formal inspection by beagles, USDA officers, and x-ray devices. The full document can be obtained by contacting the Los Angeles USDA port director at (310) 725-1900.

3. The Australian Veterinary Emergency Plan (AUSVETPLAN)—A series of technical response plans that describe the proposed Australian approach to an exotic disease incursion. The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans. Additional information is available at http://www.aahc.com.au/ausvetplan/index.htm.

4. Health and Human Services National Pharmaceutical Stockpile—A rapid response program designed to provide special aid through delivery of supplies to support medical personnel at disaster sites. There are eight "12-Hour Rush Packages" that are maintained in pre-packaged, pre-positioned caches in secure storage facilities around the country. The packages are designed to be deliverable to any area of the continental United States within 12 hours of deployment, with substantial supplies to address a wide variety of potential needs; pharmaceuticals, intravenous supplies, airway supplies, emergency medication, bandages and dressings, and other materials to cover a spectrum of medical needs. Additional information is available on the Internet at http://www.hhs.gov/.

Harvesting catfish from the Delta Pride Catfish farms

Appendix I: Acronyms and Abbreviations

AAC Animal Agriculture Coalition
AAVLD American Association of Veterinary Laboratory Diagnosticians
ACE Automated Commercial Environment (U.S. Customs Service)
AHICA Animal Health Information Coordination and Analysis
AHT animal health technician
AIQ agricultural inspection and quarantine
AVMA American Veterinary Medical Association
AMS Automated Manifest System
AHPA Animal Health Protection Act
APM Animal Products Manual
ARS Agricultural Research Service (USDA)
AVIC Area Veterinarian in Charge
BSE bovine spongiform encephalopathy, also mad cow disease
BSL Biosafety Level
CADIA Center for Animal Disease Information and Analysis (CEAH)
CDC Centers for Disease Control and Prevention
CEAH Centers for Epidemiology and Animal Health (USDA-APHIS-VS)
CVB Center for Veterinary Biologics (USDA-APHIS-VS)
CVB-IC Center for Veterinary Biologics-Inspection and Compliance (USDA-APHIS-VS-CVB)
CVB-L Center for Veterinary Biologics-Laboratory (USDA-APHIS-VS-CVB)
CVB-LPD Center for Veterinary Biologics-Licensing and Policy Development (USDA-APHIS-VS-CVB)
DEREA Drug Export Reform Enhancement Act
DOD United States Department of Defense
EMOC Emergency Operation Center
EMPRES Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (FAO)
FADD foreign animal disease diagnostician
FAD foreign animal disease
FAO Food and Agriculture Organization of the United Nations
FADDL Foreign Animal Disease Diagnostic Laboratory (USDA-APHIS-VS)
FAS Foreign Agricultural Service (USDA)
FSA Farm Service Agency
FEMA Federal Emergency Management Agency
FMD foot-and-mouth disease
FMDV foot-and-mouth disease virus (Aphthovirus)
FSIS Food Safety and Inspection Service (USDA)
GAO General Accounting Office
GIS Geographic Information System
HHS United States Department of Health & Human Services
IAHI International animal health information
INS Immigration and Naturalization Service

IS International Services (USDA-APHIS)
ITDS International Trade Data System (U.S. Customs Service)
MS&R monitoring, surveillance and reporting
NAAHC North American Animal Health Committee
NADC National Animal Disease Center (USDA-ARS)
NAHMS National Animal Health Monitoring System
NAHRS National Animal Health Reporting System
NCIE National Center for Import and Export (USDA-APHIS-VS)
NIAA National Institute of Animal Agriculture
NIMBY not in my backyard; a mock foreign animal disease outbreak exercise
NSS National Surveillance System
NVSL National Veterinary Services Laboratories (USDA-APHIS-VS)
OIE Office International des Epizooties
POE ports of entry
PPQ Plant Protection and Quarantine (USDA-APHIS)
PR public relations
PRV pseudorabies virus
QA quality assurance
R&D research and development
READEO Regional Emergency Animal Disease Eradication Organization (USDA-APHIS-VS)
SAHO state animal health official
SEMA State Emergency Management Agencies
SCWDS Southeastern Cooperative Wildlife Disease Study
SHPA Swine Health Protection Act
SITC Smuggling Interdiction and Trade Compliance
TECS Treasury Enforcement Communications System (U.S. Treasury)
UK United Kingdom
USAHA United States Animal Health Association
USDA United States Department of Agriculture
USERPS United States Emergency Response Plan System
USFWS United States Fish & Wildlife Service
USGS United States Geological Survey
USTR United States Trade Representative
VMO veterinary medical officer
VS Veterinary Services (USDA-APHIS)
WADS Workload Accomplishment Data System program
WS Wildlife Services (USDA-APHIS)

Appendix II: Review Panel and Committees

Review Panel

Chair The Honorable Gus Douglass, Commissioner, West Virginia Department of Agriculture
Vice Chair The Honorable Lester Spell, DVM, Commissioner, Mississippi Department of Agriculture & Commerce
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Dr. Martha Roberts, PhD, Deputy Commissioner, Florida Department of Agriculture & Consumer Services
Mr. Paul Rodgers, Director of Animal Health, Product Safety & Technical Assistance, American Sheep Industry Association
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Dr. Bruce Stewart-Brown, DVM, Perdue Farms, Inc.
Dr. Peter Timoney, DVM, PhD, MS, Director, Maxwell H. Gluck Equine Research Center, Department of Veterinary Science, University of Kentucky
Dr. Gary Weber, PhD, Executive Director, Regulatory Affairs, National Cattlemen's Beef Association
Mr. Sherman Wilhelm, JD, Director, Division of Aquaculture, Florida Dept. of Agriculture & Consumer Services

Domestic Detection and Surveillance Committee

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Mr. Jim Leafstedt, Chair, South Dakota Animal Industry Board
Dr. Bret Marsh, DVM, State Veterinarian, Indiana State Board of Animal Health
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Ms. Leah Becker, Government Relations Representative, National Pork Producers Council
Dr. Linda Logan, DVM, PhD, Executive Director, Texas Animal Health Commission
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Mr. Wayne Godwin, Second Vice President, Florida Cattlemens Association
Dr. Heidi Hamlen, DVM, MS, California Department of Food and Agriculture
Dr. Sam Holland, DVM, State Veterinarian, South Dakota Animal Industry Board
Dr. Kenneth Olson, PhD, Dairy and Animal Health Consultant
Dr. David Thain, DVM, State Veterinarian, Nevada Department of Agriculture, Bureau of Animal Industry
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Dr. Jim Watson, DVM, Director, Board of Animal Health, Mississippi Department of Agriculture and Commerce

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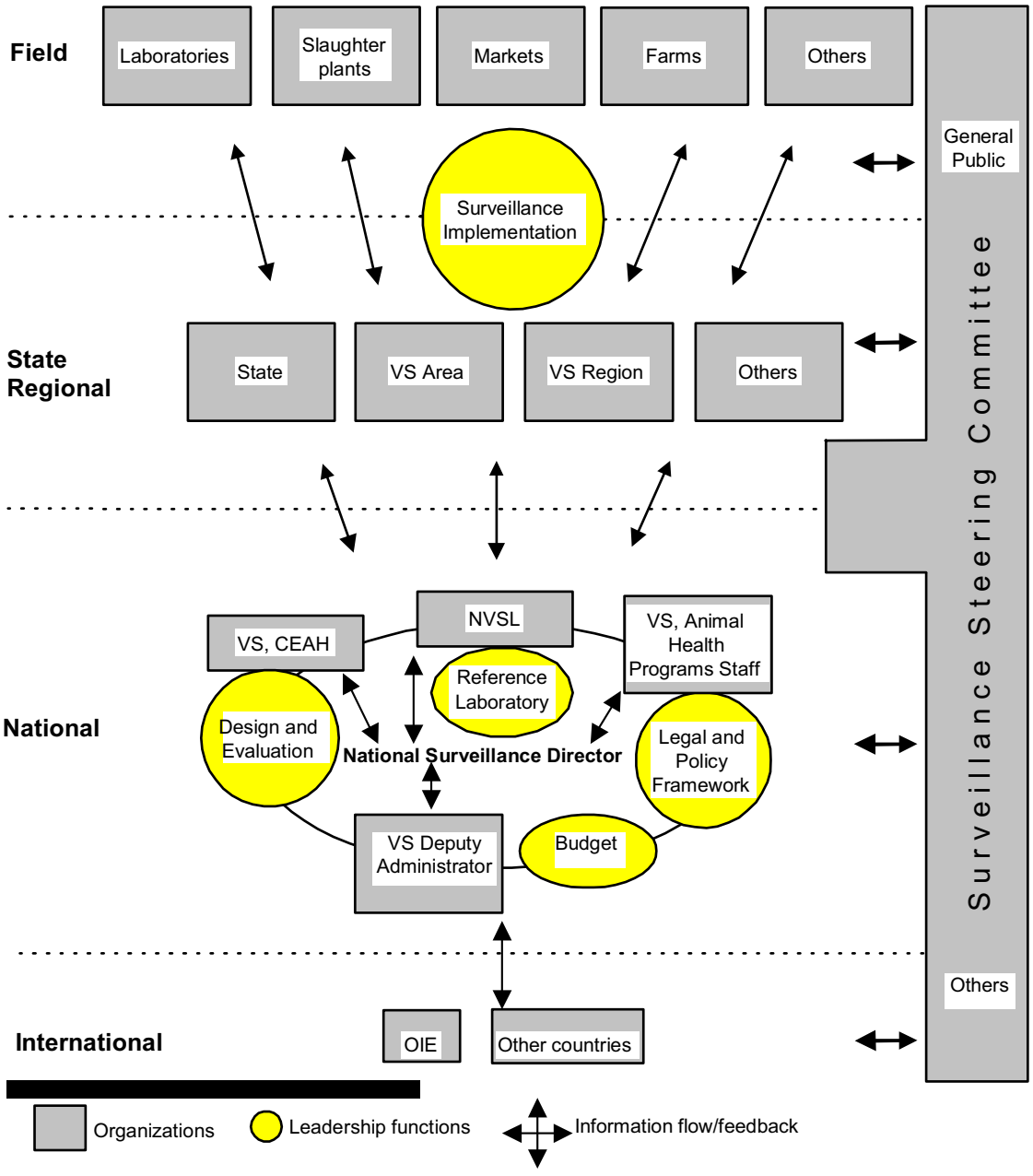
Appendix III: National Surveillance System

National Surveillance System



× Adapted from One Page Plan for More Comprehensive and Integrated Animal Health Surveillance, Dr. Mark Schoenbaum, Dr. Adam Grow, Veterinary Services, May 3, 2001

Appendix IV: How This Report Was Created

In November 2000, APHIS established a cooperative agreement with NASDA Research Foundation (NASDARF) to coordinate an assessment of the capabilities of U.S. and state governments, foreign governments, and the livestock industry itself to protect U.S. livestock and human health from animal diseases. The audit focuses on the performance of APHIS itself.

The report's authors include state veterinarians, university and private animal health specialists, former APHIS associates, and experts from state agriculture departments and the livestock industry. These individuals were selected by NASDARF and grouped into four committees:

- Domestic Detection & Surveillance
- Exclusion
- International Information
- Response

Over the course of eight months, committee members traveled to U.S. program sites, met with participants in animal disease control programs, and drafted findings and recommendations, which were later endorsed in a survey of stakeholders and state departments of agriculture personnel.